

Three New Taxa of the Genus *Odontotrypes* (Coleoptera, Geotrupidae) from China

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Abstract Two new species and a subspecies of the genus *Odontotrypes* are described from China: *O. (Odontotrypes) weidengensis* sp. nov. from Yunnan, *O. (O.) medogensis* sp. nov. from Xizang, and *O. (Thorectomimus) farkaci habaensis* ssp. nov. from Yunnan.

The geotrupid genus *Odontotrypes* has highly diversified in China and nearly 90 % of the known species of this genus have been recorded from China (NIKOLAJEV *et al.*, 2016; SCHOOLMEESTERS, 2018). In recent years, we have been studying *Odontotrypes* species from China (OCHI *et al.*, 2017 a, b, c, 2018). In the present paper, we describe two new species of this genus from Yunnan and Xizang, China. In addition, we also describe a new subspecies of *O. (Thorectomimus) farkaci* KRÁL, MALÝ et SCHNEIDER, 2001 from Yunnan, China.

For the terminology of male genitalia, we follow OCHI *et al.* (2017 b). The abbreviations for measurements (in mm) are as follows: Pl — pronotal length along the midline; Pw — pronotal width at the widest place; El — elytral length from the middle of posterior margin of pronotum to the apices of elytra; Ew — elytral width at the widest place; Phl — phallobase length in dorsal view; Phw — phallobase width at the distal end in dorsal view; Prl — paramere length in dorsal view.

Odontotrypes (Thorectomimus) farkaci habaensis ssp. nov.

(Figs. 1, 4, 5 8 & 9)

Description of holotype. Length: 14.6 mm (excluding mandibles).

M a l e. Body somewhat widely oval in outline. Color black, partly tinged with very slight greenish or cupreous luster. Head with clypeus a little more strongly produced forward; surface very densely and strongly punctate, the punctures partly becoming confluent and often forming irregular wrinkles. Pronotum densely and strongly punctate, the punctures distinctly larger and deeper than those of clypeus. Elytra each with barely countable ten striae and also with barely perceptible eleven intervals.

Aedeagus slender. Phallobase slightly asymmetrical on ventral side, Phl 2.7 mm and Phw 1.1 mm in ventral view; ventral side with sagittal ventral suture distinct, antero-median portion much deeply and broadly incised and separated into two ventral lobes, right and left ventral lobes simply formed, though the former is a little broader than the latter. Parameres rather narrow and remarkably asymmetrical, Prl 1.2 mm in dorsal view; in dorsal view, left paramere broad basally and forked at inner basal 1/3; inner oblique stick thin and very sharp; outer broader lobe prolonged and obviously out-curved, with distal end truncated, outer corner sharply pointed and inner corner roundly angled, and with a fairly small and elongate inner thin membrane at inner side; right paramere prolonged along right lobe of phallobase, and incurved, with apical half broadened, longitudinally and shallowly depressed, apex obtusely pointed.

Variation. Length: 14.4–15.6 mm (n = 5). Dorsal side more strongly shining. Male. Elytron with 1st and 2nd striae complicatedly branched in basal 2/3, and uncountable in one paratype specimen; humeral callus distinct as well as the holotype specimen.

Type series. Holotype: ♂, China, N. W. Yunnan, Mt. Haba (3,500 m alt.), VI.1990. Paratypes: 4 ♂♂, 6 ♀♀, same data as the holotype.

Type depository. The holotype will be deposited in the collection of the Institute of Zoology, Chinese Academy of Sciences, People's Republic of China.

Etymology. The subspecific name is after the type locality, Mt. Haba.

Notes. The present new subspecies can be distinguished from the nominotypical one, *Odontotrypes (Thorectomimus) farkaci farkaci* KRÁL, MÁLY et SCHNEIDER, 2001 from Zhongdian, Yunnan, China, by the following characteristics: 1) body somewhat more widely oval instead of being distinctly oblong-oval; 2) elytron with ten striae mostly barely countable, whereas in *O. farkaci*, they are more irregularly grooved and entirely or almost uncountable; 3) clypeus a little more strongly produced forward, whereas in *O. farkaci farkaci*, it is less produced forward; 4) in male, outer broader lobe of left paramere with distal end truncated, outer corner sharply pointed and inner corner roundly angled, whereas in *O. farkaci*, its distal end is rounded with the outer corner not sharp and the inner corner distinctly rounded.

Specimen compared. *Odontotrypes (Odontotrypes) farkaci farkaci*: 1 ♂, “China, NW. Yunnan, Zhongdian Co., Mts. 17 km NW of Zhongdian 3500–4000 m, 27°53'–56'N, 99°33'–37'E, 15–23.5. 99, L & R. Businsky lgt., *Odontotrypes farkaci* KRÁL, MALÝ et SCHNEIDER, David KRÁL Det. 2013”.

Odontotrypes (Odontotrypes) weidengensis sp. nov.

(Figs. 2, 6, 7 & 10)

Description of holotype. Length: 17.9 mm (excluding mandibles).

M a l e. Body moderate-sized, oblong-oval, strongly convex dorsally. Dorsum weakly shining to sub-opaque, entirely glabrous; venter also weakly shining to sub-opaque, rather densely clothed with blackish brown hairs. Color almost black, dorsal and ventral surfaces partly tinged with weakly cupreous luster, the luster mostly distinct on elytra and in micro-granulose in bottoms of coarse punctures on pronotum; mouth parts, palpi and legs entirely black though very weakly tinged with cupreous luster on femora; claws brown; antennae including club segments almost black.

Head polygonal in outline, with labrum truncated in front; clypeus strongly and triangularly produced forward, with clypeal margin finely bordered and slightly reflexed; median portion of clypeus weakly and indefinitely raised in basal 3/4 along midline, with a small tubercle obtuse; clypeal suture sharply depressed in front and somewhat indistinct behind; T-shaped suture indistinct; eye-tubercles strong, fairly highly produced upward; eye-canthus moderately produced laterad, with external margin gently rounded in middle, and narrowed in front and behind; surface very uneven, obviously micro-granulose, roughly wrinkled, and irregularly covered with two kinds of punctures, fine and very coarse except for small impunctate area at middle of posterior-most portion.

Pronotum transverse, strongly convex, ca. 1.7 times as wide as long (Pl : Pw = 5.2 : 8.8), widest at basal 2/3; median longitudinal groove weak, obtusely depressed in basal half; anterior margin bi-sinuate, with marginal line broadly bordered in middle and thinly so laterad, posterior edge of marginal line strongly raised; lateral margins weakly and sparsely crenulate, gently rounded in basal 1/3 and almost straight in apical 2/3, thinly bordered throughout; anterior angles weakly produced, rounded and bordered at apex, posterior ones obtuse; basal margin bi-sinuate, distinctly bordered in middle and partly interrupted or thin on either side; lateral fovea small, unnoticeable, posteromedial fovea



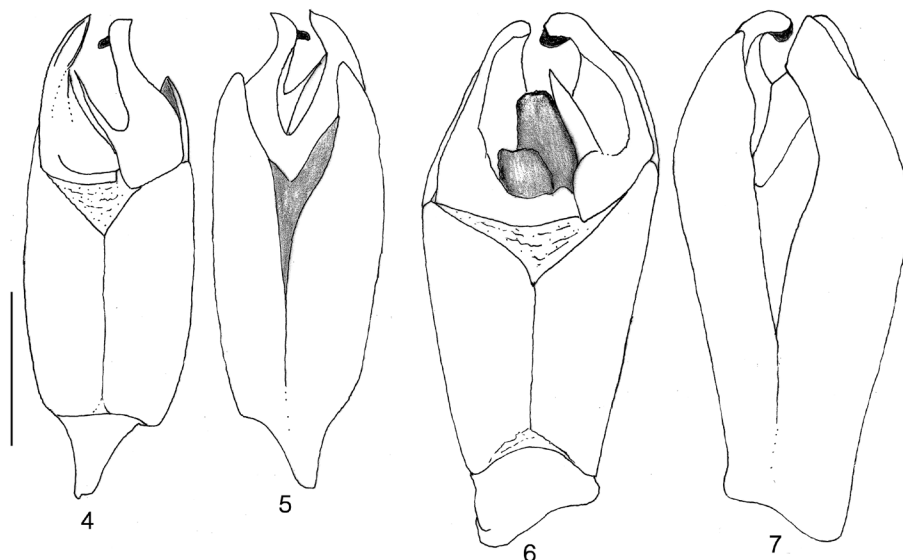
Figs. 1–3. Habitus, dorsal view. — 1, *Odontotrypes (Thorectomimus) farkaci habaensis* ssp. nov., male (holotype); 2, *O. (Odontotrypes) weidengensis* sp. nov., male (holotype); 3, *O. (O.) medogensis* sp. nov., female (holotype). Scale: 10 mm.

lacking; disc with a rather shallow transverse groove in middle behind anterior margin, which are separated into three continuous vague cells in a transverse row; surface very uneven, noticeably irregularly scattered with large strong punctures which are rather dense in middle and very dense at sides, the interspaces between punctures also rather evenly and densely distributed with small but strong punctures, wholly micro-granulose though the micro-granules distinct in the bottoms of large strong punctures. Scutellum sub-triangular in outline, micro-granulose in middle and shining marginally, with a pair of small oval fovea.

Elytra strongly convex above, ca. 1.0 times as long as wide (El : Ew = 8.8 : 9.2), widest at middle, obviously narrower than pronotum at base, with a weakly swollen humeral callus, suture barely perceptible as a moderately raised costa; disc with striae and intervals almost reduced, vestigial and uncountable; surface extremely uneven, very roughly and irregularly sculptured, and also scattered with strong large punctures, the sculptures and punctures forming irregularly wrinkled ridges or short grooves, wholly micro-granulose, the micro-granules distinct in the bottoms of sculptures or punctures and weak on the ridges. Brachypterous; metathoracic wings somewhat reduced, ca. 8.0 mm in maximum length.

All femora with each ventral side shining in front and slightly micro-granulose behind, bearing two transverse indented ridges. Protibiae obviously dilated apicad and gently incurved, with five external teeth, which are gradually decreasing in size from apex to base; ventral side armed with five to six small denticles in a longitudinal row on ventromedial edge, of which the distal one is distinctly large and sharp, and located at middle; terminal spur slender, slightly de-curved and sharply pointed apicad.

Aedeagus. Phallobase slightly symmetrical on dorsal side, clearly asymmetrical on ventral side; Phl 3.3 mm and Phw 1.4 mm in ventral view; sagittary ventral suture distinct; ventral apico-median area much deeply and broadly incised and separated into two ventral lobes; right ventral lobe marked-



Figs. 4–7. Male genitalia of the genus *Odontotrypes* spp. — 4 & 5, *Odontotrypes (Thorectomimus) farkaci habaensis* ssp. nov., male (holotype); 6 & 7, *O. (Odontotrypes) weidengensis* sp. nov., male (holotype). — 4 & 6, Dorsal view; 5 & 7, ventral view. Scale: 1 mm for figs. 4–7.

ly broad, distinctly incurved, with apex obtusely and roundly produced, apico-inner portion also similarly so; left one almost simply formed, obtusely pointed at apex. Parameres noticeably asymmetrical; Prl 1.5 mm in dorsal view; left paramere broad and well swollen at base, forked into two lobes at basal 1/3; inner oblique stick rather short and thick, sharp at apex; outer broader lobe only relatively short, weakly incurved and roundly tumid apicad, with a semicircular thin inner membrane; right paramere simply prolonged along right lobe of phallobase and weakly incurved, with apex slightly tumid internally.

Female. Head with eye-tubercles slightly less strongly produced upward; surface more densely punctate than in male. Pronotum less strongly convex than that of male, more densely and more strongly punctate. Protibiae slightly broader and more strongly dilated apicad than in male, with 1st external tooth fairly strong; ventral side armed with six small denticles in a longitudinal row on ventromedial edge, of which the distal one is distinctly lower than that of male.

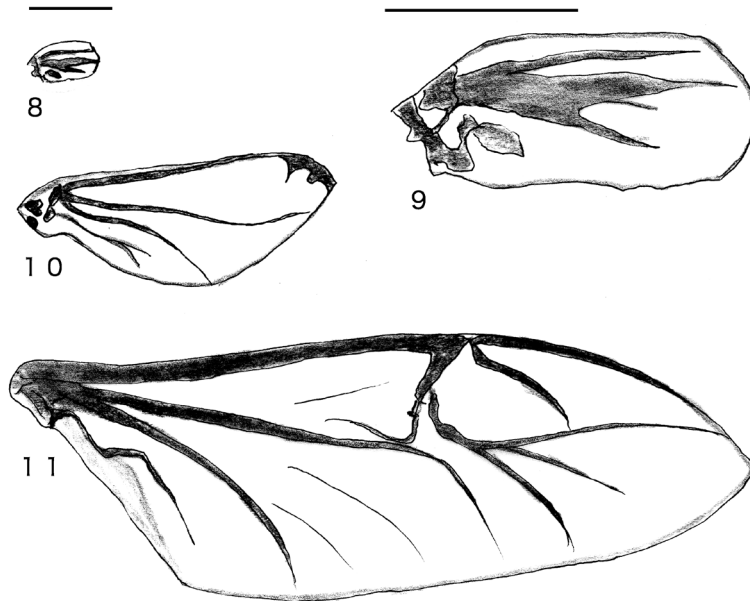
Variation. Length: 17.6–19.0 mm ($n = 6$). Color slightly variable, with head usually almost black though somewhat cupreous in one specimen. Male. Head with eye-tubercles usually strongly produced upward; pronotum with a rather shallow transverse groove mostly well perceptible behind anterior margin.

Type series. Holotype: ♂, China, Yunnan, Weixi, Weideng (3,500 m alt.), VI.1991. Paratypes: 3 ♂♂, 2 ♀♀, same data as the holotype.

Type depository. The holotype will be deposited in the collection of the Institute of Zoology, Chinese Academy of Sciences, People's Republic of China.

Etymology. The specific name is after the type locality, Weideng.

Notes. The present new species is closely related to *Odontotrypes (Odontotrypes) haba* KRÁL, MALÝ et SCHNEIDER, 2001 from Mt. Haba, NW. Yunnan, China, but can be distinguished from the latter by the following characteristics: 1) color black partly with weak cupreous luster on dorsal and ventral surfaces, whereas in *O. haba*, it is wholly black, without cupreous luster; 2) pronotum densely and



Figs. 8–11. Right metathoracic wing of the genus *Odontotrypes* spp., dorsal view. — 8 & 9, *Odontotrypes* (*Thorectomimus*) *farkaci habaensis* ssp. nov., male (holotype); 10, *O.* (*Odontotrypes*) *weidengensis* sp. nov., male (holotype); 11, *O.* (*O.*) *medogensis* sp. nov., female (holotype). Scale: 1 mm for figs. 9; 2 mm for figs. 8, 10 & 11.

irregularly covered with larger and stronger punctures, and rather more densely in the middle, whereas in *O. haba*, it is less densely and irregularly covered with slightly smaller and weaker punctures and rather more sparsely in the middle; 3) interspaces between the large and strong punctures on pronotum covered with rather small but strong punctures, which are fairly densely and evenly distributed, whereas in *O. haba*, they are very weak and scarcely traceable or entirely effaced; 4) metathoracic wing slightly larger and less reduced, ca. 8.0 mm in maximum length, whereas in the *O. haba*, it is about 7.0 mm in maximum length); 5) parameres with outer broader lobe noticeably short, whereas in *O. haba*, it is somewhat prolonged.

***Odontotrypes* (*Odontotrypes*) *medogensis* sp. nov.**

(Figs. 3 & 11)

Description of holotype. Length: 20.9 mm (excluding mandibles).

F e m a l e. Body somewhat large-sized, oblong-oval, moderately convex dorsally. Dorsum weakly shining on head and pronotum, distinctly shining on elytra and glabrous on whole surface; venter weakly shining to sub-opaque except for shining legs, distinctly clothed with blackish brown hairs. Color black, pronotum with anterior and lateral margins tinged with slight cupreous to greenish luster, elytra wholly covered with cupreous, partly greenish, luster; ventral surface also black, partly tinged with weak cupreous luster; mouth parts, antennae and legs blackish brown, though femora with slight cupreous luster; claws brown.

Head polygonal in outline, with labrum scarcely emarginated in front; clypeus rather weakly produced forward, with clypeal margin finely bordered and scarcely upturned; median portion of clypeus

not raised along midline though a small obtuse tubercle weakly raised; clypeal suture sharply depressed throughout; T-shaped suture distinct; eye-tubercles fairly strong, highly produced upward; eye-canthus distinctly produced laterad, with external margin parallel-sided in middle, and narrowed in front and behind; surface weakly uneven and wrinkled, vaguely micro-granulose, densely and indefinitely punctate.

Pronotum fairly transverse, strongly convex, ca. 1.8 times as wide as long ($Pl : Pw = 5.5 : 9.9$), widest at basal 1/3; median longitudinal groove weak, obtusely depressed in basal 2/5; anterior margin noticeably strongly bi-sinuate, with marginal line fairly broadly bordered in middle and thinly so laterad, posterior edge of the marginal line strongly raised at middle; lateral margins scarcely crenulate, straight in basal 1/4, rounded at basal 2/4, and then almost linear or very slightly sinuate anteriorly, posterior ones obtuse; basal margin weakly bi-sinuate, distinctly bordered in middle and partly interrupted or thin on either side; lateral fovea small, unnoticeable, posteromedial fovea lacking; disc with a shallow transverse groove along anterior margin, which is broad at middle and narrow laterad; surface densely micro-reticulate, widely impunctate except for punctate lateral portions and median longitudinal groove, the former is irregularly and densely scattered with coarse and vague punctures and the latter is longitudinally arranged with several fine punctures. Scutellum widely pentagonal in outline, parallel-sided basally, with several vague punctures.

Elytra moderately convex above, ca. 1.0 times as long as wide ($El : Ew = 10.5 : 10.9$), widest at basal 1/3, with a strongly swollen humeral callus, suture flattened and broad; disc weakly convex, each elytron with 14 striae; inner seven striae weakly grooved, which are distinct basally and somewhat indistinct apically; outer seven ones fairly obtuse and traceable; stria punctures very fine and irregularly arranged; intervals micro-reticulate, entirely impunctate. Macropterous; metathoracic wings scarcely reduced, ca. 19.0 mm in maximum length.

All femora with each ventral side weakly shining, bearing two transverse indented ridges. Protibiae strongly dilated apicad and gently incurved, with six external teeth, which are gradually decreasing in size from apex to base; ventral side armed with six to seven small denticles in a longitudinal row on ventromedial edge; terminal spur elongate, sharply pointed apicad.

Variation. Length: 20.9–23.1 mm. Color slightly variable; pronotum with anterior transverse groove almost black in one individual; femora sometimes with weak bluish tinge. Head with clypeus ogival in shape, moderately produced forward; clypeal surface weakly uneven, punctures and wrinkles usually indefinite even in fresh individuals.

M a l e. Unknown.

Type series. Holotype: ♀, China, Tibet, Medog (2,000 m alt.), VIII.1989. Paratypes: 8 ♀♀, same data as the holotype.

Type depository. The holotype will be deposited in the collection of the Institute of Zoology, Chinese Academy of Sciences, People's Republic of China.

Etymology. The specific name is after the type locality, Medog.

Notes. The present new species is somewhat related to *Odontotrypes (Odontotrypes) balthasari* (MIKŠIĆ, 1958), but can be distinguished from the latter by the following characteristics: 1) body somewhat larger, ca. 20.9–23.1 mm ($n = 5$), whereas in *O. balthasari*, it is smaller, ca. 15.0–21.0 mm; 2) pronotum with median portion almost impunctate, whereas in *O. balthasari*, it is irregularly sparsely but distinctly punctate; 3) head and pronotum almost black, whereas in *O. balthasari*, they are covered with strong metallic, cupreous, greenish or bluish luster; 4) head with clypeus ogival in shape, moderately produced forward, whereas in *O. balthasari*, it is also ogival in shape but more strongly produced forward; 5) metathoracic wing slightly longer than that of *O. balthasari*, and less reduced.

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要 約

越智輝雄・近 雅博・白 明：中国産 *Odontotrypes* 属 (鞘翅目センチコガネ科) 3 新分類群の記載。
 —— *Odontotrypes* 属の2新種, *O. (Odontotrypes) weidengensis* sp. nov. および *O. (O.) medogensis* sp. nov. をそれぞれ中国の雲南およびチベットから記載した。また, *O. (Thorectomimus) farkaci* KRÁL et al., 2001 の新亜種 *O. (T.) farkaci habaensis* ssp. nov. を雲南から記載した。

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